

Carlson 09/989,994

=> d his

(FILE 'HOME' ENTERED AT 12:19:12 ON 19 FEB 2004)

FILE 'REGISTRY' ENTERED AT 12:20:21 ON 19 FEB 2004

L1	2 S	DRSNLTR/SQSP
L2	2 S	TSGHLR/SQSP
L3	50 S	RSDHLR/SQSP
L4	0 S	L1 AND L2 AND L3
L5	0 S	L1 AND (L2 OR L3)
L6	0 S	L2 AND (L1 OR L3)
L7	0 S	L3 AND (L2 OR L1)

FILE 'CAPLUS' ENTERED AT 12:23:08 ON 19 FEB 2004

L8	13 S	L1
L9	6 S	L2
L10	25 S	L3
L11	6 S	L8 AND L9 AND L10

=> fil reg

FILE 'REGISTRY' ENTERED AT 12:26:40 ON 19 FEB 2004
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Property values tagged with IC are from the ZIC/VINITI data file
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STRUCTURE FILE UPDATES: 18 FEB 2004 HIGHEST RN 651705-73-6
DICTIONARY FILE UPDATES: 18 FEB 2004 HIGHEST RN 651705-73-6

TSCA INFORMATION NOW CURRENT THROUGH JULY 14, 2003

Please note that search-term pricing does apply when
conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more
information enter HELP PROP at an arrow prompt in the file or refer
to the file summary sheet on the web at:
<http://www.cas.org/ONLINE/DBSS/registryss.html>

=> d his 11-17

(FILE 'HOME' ENTERED AT 12:19:12 ON 19 FEB 2004)

FILE 'REGISTRY' ENTERED AT 12:20:21 ON 19 FEB 2004

L1	2 S	DRSNLTR/SQSP
L2	2 S	TSGHLR/SQSP
L3	50 S	RSDHLR/SQSP
L4	0 S	L1 AND L2 AND L3
L5	0 S	L1 AND (L2 OR L3)
L6	0 S	L2 AND (L1 OR L3)
L7	0 S	L3 AND (L2 OR L1)

} none together in 1 seq.

=> fil caplus

FILE 'CAPLUS' ENTERED AT 12:26:53 ON 19 FEB 2004
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FILE COVERS 1907 - 19 Feb 2004 VOL 140 ISS 8
FILE LAST UPDATED: 18 Feb 2004 (20040218/ED)

This file contains CAS Registry Numbers for easy and accurate
substance identification.

'OBI' IS DEFAULT SEARCH FIELD FOR 'CAPLUS' FILE

=> d que l11

L1 2 SEA FILE=REGISTRY ABB=ON PLU=ON DRSNLTR/SQSP
 L2 2 SEA FILE=REGISTRY ABB=ON PLU=ON TSGHLSR/SQSP
 L3 50 SEA FILE=REGISTRY ABB=ON PLU=ON RSDHLSR/SQSP
 L8 13 SEA FILE=CAPLUS ABB=ON PLU=ON L1
 L9 6 SEA FILE=CAPLUS ABB=ON PLU=ON L2
 L10 25 SEA FILE=CAPLUS ABB=ON PLU=ON L3
 L11 6 SEA FILE=CAPLUS ABB=ON PLU=ON L8 AND L9 AND L10

=> d .ca l11 1-16

L11 ANSWER 1 OF 6 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 2003:435219 CAPLUS
 DOCUMENT NUMBER: 139:31780
 TITLE: Zinc finger peptides binding GNN nucleotide triplets
 and their use in sequence-specific DNA-binding
 proteins
 INVENTOR(S): Liu, Qiang
 PATENT ASSIGNEE(S): USA
 SOURCE: U.S. Pat. Appl. Publ., 48 pp., Cont.-in-part of U.S.
 Ser. No. 716,637.
 CODEN: USXXCO
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 5
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2003104526	A1	20030605	US 2001-989994	20011120
US 6465629	B1	20021015	US 2000-535008	20000323
PRIORITY APPLN. INFO.:			US 1999-126238P	P 19990324
			US 1999-126239P	P 19990324
			US 1999-146595P	P 19990730
			US 1999-146615P	P 19990730
			US 2000-535008	A2 20000323
			US 2000-716637	A2 20001120
			US 1999-125806P	P 19990323

AB The specificity of binding of a zinc finger to a triplet or quadruplet nucleotide target subsite depends upon the location of the zinc finger in a multifinger protein and, hence, upon the location of its target subsite within a larger target sequence. The present disclosure provides zinc finger amino acid sequences for recognition of triplet target subsites having the nucleotide G as the 5'- nucleotide of the subsite, that have been optimized with respect to the location of the subsite within the target site. Accordingly, the disclosure provides finger position-specific amino acid sequences for the recognition of GNN target subsites. This allows the construction of multi-finger zinc finger proteins with improved affinity and specificity for their target sequences, as well as enhanced biol. activity.

IC ICM C12Q001-68
 ICS C07H021-04; C12N009-64; C12P021-02; C12N005-06
 NCL 435069100; 435006000; 435226000; 435320100; 435325000; 536023200
 CC 3-2 (Biochemical Genetics)
 Section cross-reference(s): 6
 IT 265099-17-0 266304-69-2 355021-82-8 355021-84-0 355021-85-1

433336-62-0 433682-28-1 433682-30-5 433682-32-7
 433682-34-9 433682-35-0 433957-89-2 433957-91-6

RL: BUU (Biological use, unclassified); PRP (Properties); BIOL (Biological study); USES (Uses)

(amino acid sequence, as zinc finger; zinc finger peptides binding GNN nucleotide triplets and their use in sequence-specific DNA-binding proteins)

IT	2543-43-3	144253-27-0	144253-28-1	144253-31-6	144253-32-7
	144253-33-8	144253-34-9	168971-84-4	265099-06-7	265099-07-8
	265099-08-9	265099-09-0	265099-10-3	265099-11-4	265099-13-6
	265099-14-7	265099-18-1	265099-19-2	266304-90-9	266305-21-9
	266305-32-2	266305-52-6	284684-36-2	284684-38-4	284684-39-5
	311343-71-2	318509-10-3	334865-73-5	355021-15-7	355021-16-8
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	433961-53-6	433961-54-7	433961-55-8	433961-56-9	433961-58-1
	433961-59-2				

RL: PRP (Properties)

(unclaimed sequence; zinc finger peptides binding GNN nucleotide triplets and their use in sequence-specific DNA-binding proteins)

L11 ANSWER 2 OF 6 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 2003:282039 CAPLUS
 DOCUMENT NUMBER: 138:298818
 TITLE: Zinc finger peptides binding GNN nucleotide triplets
 and their use in sequence-specific DNA-binding
 proteins
 INVENTOR(S): Liu, Qiang
 PATENT ASSIGNEE(S): USA
 SOURCE: U.S. Pat. Appl. Publ., 34 pp., Cont.-in-part of U.S.
 Ser. No. 535,008.
 CODEN: USXXCO
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 5
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2003068675	A1	20030410	US 2001-990186	20011120
US 6465629	B1	20021015	US 2000-535008	20000323
PRIORITY APPLN. INFO.:			US 1999-126238P	P 19990324
			US 1999-126239P	P 19990324
			US 1999-146595P	P 19990730
			US 1999-146615P	P 19990730
			US 2000-535008	A2 20000323
			US 2000-716637	A2 20001120
			US 1999-125806P	P 19990323

AB The specificity of binding of a zinc finger to a triplet or quadruplet nucleotide target subsite depends upon the location of the zinc finger in a multifinger protein and, hence, upon the location of its target subsite within a larger target sequence. The present disclosure provides zinc finger amino acid sequences for recognition of triplet target subsites having the nucleotide G in the 5'-most position of the subsite, that have been optimized with respect to the location of the subsite within the target site. Accordingly, the disclosure provides finger position-specific amino acid sequences for the recognition of GNN target subsites. This allows the construction of multi-finger zinc finger proteins with improved affinity and specificity for their target sequences, as well as enhanced biol. activity.

IC ICM C12P021-02
 ICS C12Q001-68; G06F019-00; G01N033-48; G01N033-50; C12N009-64

NCL 435069100; 435226000; 702019000; 435006000

CC 3-2 (Biochemical Genetics)
 Section cross-reference(s): 6

IT

144253-27-0	144253-28-1	144253-31-6	144253-32-7	144253-33-8
144253-34-9	168971-84-4	265099-06-7	265099-07-8	265099-08-9
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433961-42-3	433961-43-4	433961-44-5	433961-45-6	433961-46-7
433961-47-8				

RL: PRP (Properties)

(unclaimed sequence; zinc finger peptides binding GNN nucleotide triplets and their use in sequence-specific DNA-binding proteins)

L11 ANSWER 3 OF 6 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2003:174227 CAPLUS

DOCUMENT NUMBER: 138:216497

TITLE: Synthetic zinc finger proteins and sequences bound by them and their use in regulation of expression of the VEGF gene and angiogenesis

INVENTOR(S): Rebar, Edward; Jamieson, Andrew; Liu, Qiang; Liu, Pei-qi; Wolffe, Alan; Eisenberg, Stephen P.; Jarvis, Eric

PATENT ASSIGNEE(S): USA

SOURCE: U.S. Pat. Appl. Publ., 75 pp., Cont.-in-part of U.S. Ser. No. 736,083.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 3

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2003044404	A1	20030306	US 2001-846033	20010430
WO 2002046412	A2	20020613	WO 2001-US46861	20011206
WO 2002046412	A3	20030313		

W: AE, AG, AL, AM, AT, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, CZ, DE, DE, DK, DK, DM, DZ, EC, EE, EE, ES, FI, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

AU 2002028841 A5 20020618 AU 2002-28841 20011206
 US 2003021776 A1 20030130 US 2001-6069 20011206
 EP 1341914 A2 20030910 EP 2001-989961 20011206

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR

PRIORITY APPLN. INFO.:

US 2000-733604 B2 20001207
 US 2000-736083 B2 20001212
 US 2001-846033 A 20010430
 WO 2001-US46861 W 20011206

AB Synthetic C2H2 zinc finger proteins that bind to DNase I-hypersensitive sites in the vascular endothelial growth factor (VEGF) gene and that can be used to regulated gene expression and angiogenesis are described for use in treatment of ischemia, in wound healing, and other diseases associated with angiogenesis. The VEGF-A gene was analyzed to identify DNase I hypersensitive sites and an array of synthetic zinc finger domains fused to VP16 or NF- κ B p65 were designed and tested for their ability to bind to constitutively and conditionally hypersensitive sites. Fusion products containing 6 zinc fingers were shown to regulate transcription of the gene. When gene expression was induced by hypoxia, the pattern of splice variants from the gene was comparable found in control cells.

IC ICM A61K038-48

ICS C12N009-64; C07H021-04; C12P021-02; C12N005-06

NCL 424094630; 435226000; 435069100; 435325000; 435320100; 536023200

CC 3-2 (Biochemical Genetics)

Section cross-reference(s): 1, 2

IT 144253-34-9D, fusion products with transcription factors 265099-17-0D, fusion products with transcription factors 266305-21-9D, fusion products with transcription factors 311343-71-2D, fusion products with transcription factors 334865-73-5D, fusion products with transcription factors 355021-82-8D, fusion products with transcription factors 355021-84-0D, fusion products with transcription factors 355021-85-1D, fusion products with transcription factors 355021-86-2D, fusion products with transcription factors 372188-20-0D, fusion products with transcription factors 372188-21-1D, fusion products with transcription factors 372188-27-7D, fusion products with transcription factors 433336-51-7D, fusion products with transcription factors 433336-55-1D, fusion products with transcription factors 433336-57-3D, fusion products with transcription factors 433336-58-4D, fusion products with transcription factors 433336-60-8D, fusion products with transcription factors 433336-61-9D, fusion products with transcription factors 433336-63-1D, fusion products with transcription factors 433336-65-3D, fusion products with transcription factors 433336-66-4D, fusion products with transcription factors 433336-68-6D, fusion products with transcription factors 433336-70-0D, fusion products with transcription factors 433336-72-2D, fusion products with transcription factors 433682-27-0D, fusion products with transcription factors 433682-28-1D, fusion products with transcription factors 433682-29-2D, fusion products with transcription factors 433682-31-6D, fusion products with transcription factors 433682-33-8D, fusion products with transcription factors 433682-36-1D, fusion products with

transcription factors 433682-38-3D, fusion products with transcription factors 433682-44-1D, fusion products with transcription factors 433682-79-2D, fusion products with transcription factors 433682-86-1D, fusion products with transcription factors 433957-87-0D, fusion products with transcription factors 433960-51-1D, fusion products with transcription factors 433961-46-7D, fusion products with transcription factors 433961-63-8D, fusion products with transcription factors 433961-78-5D, fusion products with transcription factors 433967-01-2D, fusion products with transcription factors 433967-57-8D, fusion products with transcription factors 433967-98-7D, fusion products with transcription factors 433967-99-8D, fusion products with transcription factors

RL: BUU (Biological use, unclassified); PRP (Properties); BIOL (Biological study); USES (Uses)

(amino acid sequence, zinc finger peptide; synthetic zinc finger proteins and sequences bound by them and their use in regulation of expression of VEGF gene and angiogenesis)

IT 144253-31-6 266304-69-2 372188-22-2 433682-43-0 433682-83-8
 433957-91-6 433959-23-0 433966-39-3 436854-87-4
 436854-88-5 436854-89-6 436854-90-9 436854-91-0 436854-92-1

RL: PRP (Properties)

(unclaimed sequence; synthetic zinc finger proteins and sequences bound by them and their use in regulation of expression of the VEGF gene and angiogenesis)

L11 ANSWER 4 OF 6 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2003:77320 CAPLUS

DOCUMENT NUMBER: 138:147722

TITLE: Chimeric zinc finger proteins for modulating vascular endothelial growth factor gene expression and therapeutic use in regulation of angiogenesis

INVENTOR(S): Rebar, Edward; Jamieson, Andrew; Liu, Qiang; Liu, Pei-Qi; Wolffe, Alan; Eisenberg, Stephen P.; Jarvis, Eric

PATENT ASSIGNEE(S): Sangamo Biosciences, Inc., USA

SOURCE: U.S. Pat. Appl. Publ., 120 pp., Cont.-in-part of U.S. Ser. No. 846,033.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 3

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2003021776	A1	20030130	US 2001-6069	20011206
US 2003044404	A1	20030306	US 2001-846033	20010430
PRIORITY APPLN. INFO.:			US 2000-733604	B2 20001207
			US 2000-736083	B2 20001212
			US 2001-846033	A2 20010430

AB The invention provides methods and compns. for regulating angiogenesis, such methods and compns. being useful in a variety of applications where modulation of vascular formation is useful in treatments for ischemia and wound healing. Certain of the methods and compns. accomplish this by using various zinc finger proteins that bind to particular target sites in one or more VEGF genes. Nucleic acids encoding the zinc finger proteins are also disclosed. Methods for modulating the expression of one or more VEGF genes with the zinc finger proteins and nucleic acids are also disclosed. Such methods can also be utilized in a variety of therapeutic applications that involve the regulation of endothelial cell growth.

Pharmaceutical comps. including the zinc finger proteins or nucleic acids encoding them are also provided.

IC ICM A61K038-48

ICS C12N009-64

NCL 424094630; 514006000; 435226000

CC 1-8 (Pharmacology)

Section cross-reference(s): 3, 13

IT 2543-43-3 95088-49-6 98849-88-8 144253-31-6 144253-34-9
 168971-84-4 265099-17-0 266304-69-2 266305-21-9 284684-36-2
 284684-37-3 284684-38-4 334865-73-5 355021-15-7 355021-16-8
 355021-17-9 355021-18-0 355021-82-8 355021-84-0 355021-85-1
355021-86-2 372188-20-0 372188-21-1 372188-22-2
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 433336-68-6 433336-70-0 433336-72-2 433682-27-0 **433682-28-1**
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433957-91-6 433959-23-0 433960-51-1 433961-46-7
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 433967-99-8 436854-86-3 436854-87-4 436854-88-5 436854-89-6
 436854-90-9 436854-91-0 436854-92-1

RL: PRP (Properties)

(unclaimed sequence; chimeric zinc finger proteins for modulating vascular endothelial growth factor gene expression and therapeutic use in regulation of angiogenesis)

L11 ANSWER 5 OF 6 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2002:449871 CAPLUS

DOCUMENT NUMBER: 137:29656

TITLE: Selection of zinc finger protein targeting sites in VEGF gene promoter region and methods of designing zinc finger proteins to bind to preselected sites for modulation of angiogenesis

INVENTOR(S): Rebar, Edward; Jamieson, Andrew; Liu, Qiang; Liu, Pei-Qi; Wolffe, Alan; Eisenberg, Stephen P.; Jarvis, Eric

PATENT ASSIGNEE(S): Sangamo Biosciences, Inc., USA

SOURCE: PCT Int. Appl., 195 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 3

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002046412	A2	20020613	WO 2001-US46861	20011206
WO 2002046412	A3	20030313		
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
US 2003044404	A1	20030306	US 2001-846033	20010430
AU 2002028841	A5	20020618	AU 2002-28841	20011206

EP 1341914 A2 20030910 EP 2001-989961 20011206

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
IE, SI, LT, LV, FI, RO, MK, CY, AL, TR

PRIORITY APPLN. INFO.:

US 2000-733604 A 20001207

US 2000-736083 A 20001212

US 2001-846033 A 20010430

WO 2001-US46861 W 20011206

AB The invention provides criteria and methods for selecting optimum subsequence(s) from the promoter region of animal vascular endothelial growth factor (VEGF) gene for targeting by a zinc finger protein. The invention also provides methods of designing zinc finger protein segments (seven contiguous amino acids) that bind to a preselected target site. The targeting sequences in the promoter region of VEGF and the sequences of segment of zinc finger proteins were disclosed. The expression of zinc finger protein segments stimulated the expression of VEGF in human, mouse and rat cells. The ZFP provides in this invention can be used to modulate the expression of VEGF for treatment of diseases such as atherosclerosis, ischemia, arthritis, injury and tumors.

IC ICM C12N015-12

ICS C07K014-47; A61K048-00; A61K038-17

CC 6-3 (General Biochemistry)

Section cross-reference(s): 3

IT 2543-43-3 95088-49-6 98849-88-8 144253-31-6 144253-34-9
 168971-84-4 265099-17-0 266304-69-2 266305-21-9 284684-36-2
 284684-37-3 284684-38-4 311343-71-2 334865-73-5 355021-15-7
 355021-16-8 355021-17-9 355021-18-0 355021-82-8 355021-84-0
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 433959-23-0 433960-51-1 433961-46-7 433961-63-8 433961-78-5
 433966-39-3 433967-01-2 433967-57-8 433967-98-7 433967-99-8
 436854-86-3 436854-87-4 436854-88-5 436854-89-6 436854-90-9
 436854-91-0 436854-92-1

RL: PRP (Properties)

(unclaimed sequence; selection of zinc finger protein targeting sites in VEGF gene promoter region and methods of designing zinc finger proteins to bind to preselected sites for modulation of angiogenesis)

L11 ANSWER 6 OF 6 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2002:408800 CAPLUS

DOCUMENT NUMBER: 137:16500

TITLE: Zinc finger protein design for GNN DNA triplet targets

INVENTOR(S): Liu, Qiang

PATENT ASSIGNEE(S): Sangamo Biosciences, Inc., USA

SOURCE: PCT Int. Appl., 81 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 5

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002042459	A2	20020530	WO 2001-US43438	20011120
WO 2002042459	A3	20030918		

W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CO, CU, CZ,

DE, DK, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN,
 IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG,
 MK, MN, MW, MX, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI,
 SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY,
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 CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR,
 BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
 AU 2002039295 A5 20020603 AU 2002-39295 20011120
 EP 1364020 A2 20031126 EP 2001-987037 20011120
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
 IE, SI, LT, LV, FI, RO, MK, CY, AL, TR
 PRIORITY APPLN. INFO.: US 2000-716637 A2 20001120
 WO 2001-US43438 W 20011120

AB The present disclosure provides zinc finger amino acid sequences for recognition of triplet target subsites having the nucleotide G in the 5'-most position of the subsite, that have been optimized with respect to the location of the subsite within the target site. Accordingly, the disclosure provides finger position-specific amino acid sequences for the recognition of GNN target subsites. This allows the construction of multi-finger zinc finger proteins with improved affinity and specificity for their target sequences, as well as enhanced biol. activity. The Cys2-His2-type zinc finger DNA-binding proteins can be engineered to bind specifically to many different DNA sequences. A single zinc finger typically binds to a 3-4-base pair DNA subsite. One strategy for design is to identify highly specific fingers that recognize each of the 64 possible DNA triplets. The authors started with a subgroup of the 64 triplets, the GNN-binding fingers. The GNN-binding fingers have been examined in several studies, but previous studies did not produce specific fingers for all of the 16 GNN triplets. These previous studies did not provide any information on the possible positional or context effects on the performance of these fingers. To identify the most specific design and take the possible positional effects into consideration, the authors did a large-scale site selection experiment on our GNN designs. From this study, the authors identified very specific fingers for 14 of the 16 GNN triplets, demonstrating for the first time a clear positional dependence for many of the designs. Further systematic specificity study reveals that the in vivo functionality of these zinc finger proteins in a reporter assay depends on their binding affinities to their target sequences, thus giving a better understanding of how these zinc finger proteins might function inside cells.

IC ICM C12N015-12
 ICS C07K014-47

CC 3-2 (Biochemical Genetics)
 Section cross-reference(s): 6

IT 144253-27-0 265099-09-0 265099-17-0 266304-69-2 355021-82-8
 355021-83-9 355021-84-0 355021-85-1 **355021-86-2**
 372188-27-7 433336-51-7 433336-55-1 433336-57-3 433336-62-0
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433957-91-6

RL: BSU (Biological study, unclassified); PRP (Properties); BIOL
 (Biological study)
 (amino acid sequence; zinc finger protein design for GNN DNA triplet
 targets)

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FILE 'REGISTRY' ENTERED AT 12:30:39 ON 19 FEB 2004
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STRUCTURE FILE UPDATES: 18 FEB 2004 HIGHEST RN 651705-73-6
DICTIONARY FILE UPDATES: 18 FEB 2004 HIGHEST RN 651705-73-6

TSCA INFORMATION NOW CURRENT THROUGH JULY 14, 2003

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Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more
information enter HELP PROP at an arrow prompt in the file or refer
to the file summary sheet on the web at:
<http://www.cas.org/ONLINE/DBSS/registryss.html>

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1 433682-28-1/BI
(433682-28-1/RN)
1 433957-91-6/BI
(433957-91-6/RN)

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L13 ANSWER 1 OF 3 REGISTRY COPYRIGHT 2004 ACS on STN
RN 433957-91-6 REGISTRY
CN L-Arginine, L-threonyl-L-serylglycyl-L-histidyl-L-leucyl-L-seryl- (9CI)
(CA INDEX NAME)

OTHER NAMES:

CN 111: PN: US20030044404 SEQID: 214 unclaimed sequence
CN 1191: PN: US20030068675 SEQID: 1201 unclaimed sequence
CN 1201: PN: US20030104526 SEQID: 1201 claimed sequence
CN 247: PN: WO0246412 SEQID: 247 unclaimed sequence
CN 4014: PN: WO0242459 PAGE: 68 claimed sequence
CN 73: PN: US20030021776 SEQID: 247 unclaimed sequence
FS PROTEIN SEQUENCE; STEREOSEARCH
SQL 7

PATENT ANNOTATIONS (PNTE):

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Source | Reference

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WO2002046412
unclaimed
SEQID 247

SEQ 1 TSGHLSR

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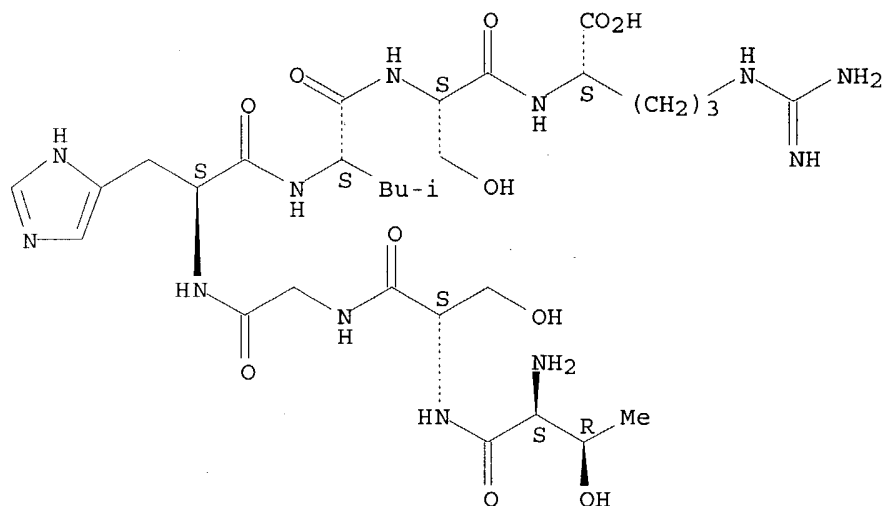
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MF C30 H52 N12 O11

SR CA

LC STN Files: CA, CAPLUS, TOXCENTER, USPATFULL

Absolute stereochemistry.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

6 REFERENCES IN FILE CA (1907 TO DATE)

6 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L13 ANSWER 2 OF 3 REGISTRY COPYRIGHT 2004 ACS on STN

RN 433682-28-1 REGISTRY

CN L-Arginine, L-α-aspartyl-L-arginyl-L-seryl-L-asparaginyl-L-leucyl-L-threonyl- (9CI) (CA INDEX NAME)

OTHER NAMES:

CN 20: PN: WO02057294 TABLE: 2 unclaimed sequence

CN 34: PN: US20030044404 SEQID: 36 claimed sequence

CN 36: PN: US20030021776 SEQID: 36 unclaimed sequence

CN 395: PN: US20030068675 SEQID: 395 unclaimed sequence

CN 395: PN: US20030104526 SEQID: 395 claimed sequence

CN 3999: PN: WO0242459 PAGE: 67 claimed sequence

CN 42: PN: US20030166141 PAGE: 34 unclaimed sequence

CN 53: PN: WO03089452 SEQID: 27 claimed sequence

CN 82: PN: WO0246412 SEQID: 36 unclaimed sequence

FS PROTEIN SEQUENCE; STEREOSEARCH

SQL 7

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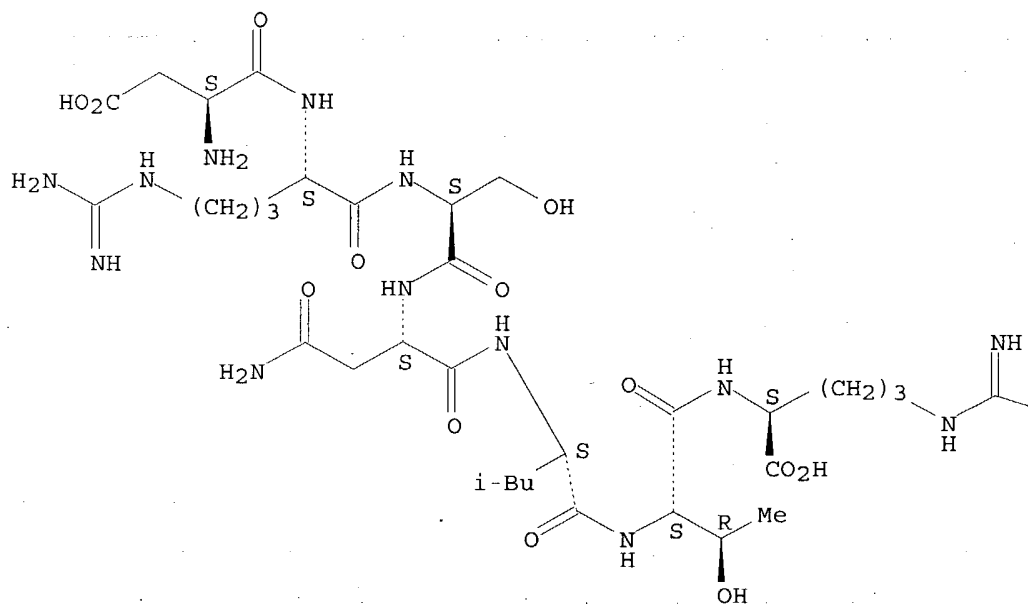
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LC STN Files: CA, CAPLUS, TOXCENTER, USPATFULL

Absolute stereochemistry.

PAGE 1-A



NH₂

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OTHER NAMES:

CN 110: PN: WO0246412 SEQID: 64 unclaimed sequence
CN 229: PN: US20030068675 SEQID: 229 unclaimed sequence
CN 229: PN: US20030104526 SEQID: 229 unclaimed sequence
CN 26: PN: US20030021776 SEQID: 64 unclaimed sequence
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CN 36: PN: US20030166141 PAGE: 34 unclaimed sequence
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CN 4009: PN: WO0242459 PAGE: 67 claimed sequence
CN 43: PN: WO0244353 SEQID: 43 unclaimed sequence
CN 45: PN: WO02057294 TABLE: 2 unclaimed sequence
CN 57: PN: US20030044404 SEQID: 64 claimed sequence
CN 5: PN: US20030049649 SEQID: 5 unclaimed sequence
CN 6: PN: WO0183751 PAGE: 25 unclaimed sequence
CN 74: PN: WO03089452 SEQID: 48 claimed sequence
FS PROTEIN SEQUENCE; STEREOSEARCH
SQL 7

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	WO2002042459
	claimed PAGE
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WO2002044353
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WO2002046412
unclaimed
SEQID 64

SEQ 1 RSDHLSR

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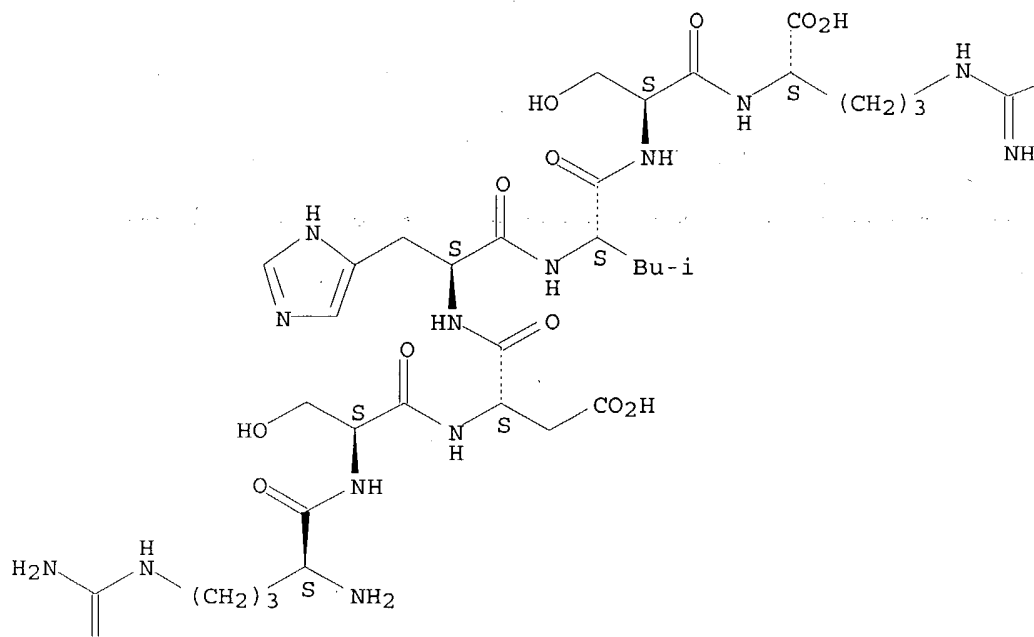
MF C34 H59 N15 O12

SR CA

LC STN Files: CA, CAPLUS, TOXCENTER, USPAT2, USPATFULL

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B

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